

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 79-18

NPDES PERMIT NO. CA 0027774

WASTE DISCHARGE REQUIREMENTS FOR:

MARINE WORLD - AFRICA USA
REDWOOD CITY, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

1. Marine World - Africa USA, hereinafter called the discharger, by application dated November 20, 1978, has applied for renewal of waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System.
2. The discharger discharges an annual average of 4.1 mgd of wastewater containing pollutants into Belmont Slough, a water of the United States, at a point approximately 2,000 feet northeast of the intersection of Ralston Avenue and Bayshore Freeway (U. S. Highway 101). Wastewater consists of water originally withdrawn from Belmont Slough, circulated through the discharger's lagoon system, and pumped back into the Slough. Daily cleanup of confined terrestrial animal areas bordering the lagoon channels is undertaken to prevent any animal wastes from entering the lagoon system.
3. The discharge is presently governed by Waste Discharge Requirements, Order No. 74-47, which allow discharge to Belmont Slough.
4. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board on April 8, 1975. The Basin Plan contains water quality objectives for Belmont Slough.
5. The beneficial uses of Belmont Slough and contiguous waters are:
 - a. Recreation
 - b. Fish migration and habitat
 - c. Habitat and resting for waterfowl and migratory birds
 - d. Esthetic enjoyment
 - e. Navigation
6. This project is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

7. The Board has notified the discharger and interested agencies and persons of its intent to revise waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
8. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that Marine World - Africa USA in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act Amendments of 1972, and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of a wastewater containing any excrement from confined terrestrial animal areas to waters of the State is prohibited.
2. The discharge of a wastewater containing domestic sewage to waters of the State is prohibited.
3. The discharge of a wastewater containing diatomaceous earth to waters of the State is prohibited.
4. The application of copper or other conservative toxicants within the lagoon system to control growth of algae or aquatic plants is prohibited.

B. Lagoon Water Limitations

1. Adequate circulation and mixing, or other methods of water quality management, shall be provided so as to maintain the following levels of water quality at all points within the lagoon system.
 - a. Dissolved Oxygen 5.0 mg/l minimum. Annual median - 80% saturation.
 - b. Chlorophyll 'a' - less than 50 µg/l increase above influent concentration.
 - c. No visible, floating, suspended or deposited oil or other products of petroleum origin.
2. Water quality within the lagoon system shall be managed so as to prevent the presence of toxic or other deleterious substances in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

C. Effluent Limitations

1. The discharge of an effluent in excess of 0.0 mg/l of chlorine residual (Instantaneous Maximum) is prohibited.
2. The discharge shall not have a pH of less than 6.5 nor greater than 8.5.

D. Receiving Water Limitations

1. The discharge of wastewater shall not cause:

- a. Visible, floating, suspended, or deposited oil or other products of petroleum origin in waters of the State at any place.
- b. Floating, suspended, or deposited macroscopic particulate matter or foam, in waters of the State at any place.
- c. Bottom deposits or aquatic growths at any place.
- d. Alteration of apparent color beyond present natural background levels in waters of the State at any place.
- e. Increased turbidity above background levels in waters of the State at any place by more than the following:

<u>Receiving Water Background</u>	<u>Incremental Increase</u>
<50 units (JTU)	5 units, maximum
50-100 units	10 units, maximum
>100 units	10% of background, maximum

- f. Variation from natural ambient pH by more than 0.2 pH units at any place in waters of the State.

- g. Tidal waters of the State to exceed the following limits of quality:

Dissolved Oxygen Minimum: 5.0 mg/l

When natural factors cause lesser concentrations, this discharge shall not cause further reduction in the concentration of dissolved oxygen.

- h. Toxic or other deleterious substances to be present in waters of the State in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

- i. A bacterial quality in excess of those limits prescribed in Section 7958, Title 17 of the California Administrative Code at any place within one foot of the surface of the receiving water. Whenever this limitation is not met in the receiving water, compliance may be demonstrated in the effluent.
2. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

E. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 74-47, adopted by the Board on June 18, 1974. Order No. 74-47 is hereby rescinded.
2. The discharger shall comply with all effluent and receiving water limitations, prohibitions, and provisions of this Order immediately upon adoption.
3. The discharger shall comply with the attached Self-Monitoring and Reporting Program as ordered by the Executive Officer.
4. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements," dated April 1977, except A.5, A.12, and B.5.
5. This Order expires February 20, 1984. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
6. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective ten (10) days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on February 20, 1979.

Attachments:

Standard Provisions, Reporting
Requirements & Definitions, dated April 1977
Self-Monitoring Program

FRED H. DIERKER
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Marine World - Africa USA

Redwood City, San Mateo County

NPDES NO. CA 0027774

ORDER NO. 79-18

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
I-1	At any point in the intake facilities prior to discharge into the lagoon system.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the spillway or outfall west of the discharge pumps, before the discharged wastewater contacts Belmont Slough.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in the middle of Belmont Slough, located approximately 500 feet south of the point of discharge.
C-2	At a point in the middle of Belmont Slough, located at the point of discharge.
C-3	At a point in the middle of Belmont Slough, located approximately 500 feet north of the point of discharge.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
L-1 through L-'n'	Located at points along the perimeter of the dikes enclosing the refuse storage area east of the lagoon, at equidistant intervals not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report.)

E. LAGOON WATERS

<u>Station</u>	<u>Description</u>
LG-1	In the middle of the lagoon channel at the bridge crossing between the park's entrance and "Safari Square Island."

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|------|--|
| LG-2 | In the middle of the lagoon channel at the bridge crossing between "Safari Square Island" and "Oceana Island." |
| LG-3 | In the middle of the lagoon channel at the bridge crossing between the mainland and the "Oceana Island." |
| LG-4 | In the middle of the lagoon channel at the main overpass between "Oceana Island" and "Paradise Island." |

II. SCHEDULE OF SAMPLING, MEASUREMENT AND ANALYSES

The schedule of sampling, measurements, and analyses shall be as given in Table I.

III. MODIFICATION, OF PART A, DATED 7/74

- A. Exclusions: paragraphs C.3., C.4., C.5.c., C.5.e., D.1., D.2.a, E.1. and F.2.
- B. Modifications: Paragraph D.2.b is revised to specify that grab samples of the effluent shall be collected after the pumps have been on at least ten minutes to insure that the samples are representative.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 79-18.
- 2. Was ordered by the Executive Officer on February 20, 1979 and becomes effective immediately.
- 3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

Attachment:
Table I

FRED H. DIERKER
Executive Officer

NPDES # CA0027774
ORDER # 79-18

SAMPLING STATIONS	I-1	E-001	C	L	LG
TYPE OF SAMPLES	G	G	G	O	G
Flow Rate (mgd)		D			
Biochemical Oxygen Demand (mg/l & lbs/day)					
Settleable Solids (ml/l-hr)					
Total Suspended Solids (mg/l & lbs/day)					
Oil & Grease (mg/l & lbs/day)					
Chlorine Residual (mg/l)		W			
pH (units)	W	W	2W		
Fecal Coliform (MPN/100 ml)	W	2/W	$\frac{1}{2/W}$		
Total Coliform (MPN/100 ml)	W	2/W	$\frac{1}{2/W}$		
Turbidity (Jackson Turbidity Units)			2W		
Dissolved Oxygen (mg/l)			2W	M	
Temperature (°F)					
Total Organic Nitrogen (mg/l & lbs/day)	M	M			
Ammonia Nitrogen (mg/l & lbs/day)	M	M			
Nitrate Nitrogen (mg/l & lbs/day)	M	M			
Total Phosphate (mg/l & lbs/day)					

TABLE I (Continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES

NPDES # CA0037774

ORDER # 79-18

SAMPLING STATIONS	I-1	E-001	C	L	LG		
TYPE OF SAMPLES	G	G	G	O	G		
Bottom Sediment Analyses and Observations							
All Applicable Standard Observations			W	W	M		
Chlorophyll 'a' ^{2/} (ug/l)	M				M		

LEGEND FOR TABLE

TYPE OF SAMPLES

G = grab sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations
L = basin and/or pond levee stations
LG = Lagoon stations

FREQUENCY OF SAMPLING

D = once each day
M = monthly
2/W = 2 days per week
2W = every 2 weeks

NOTES FOR TABLE

^{1/}To be monitored only at Station C-2. Samples shall be taken only during times of discharge and at approximately the same time as effluent samples are taken. A minimum of 10 samples shall be taken each calendar month.

^{2/}To be monitored only during the period April 1 through October 1.